



Progress in the Control of Oral Cancer, Rhode Island, 1987-1998

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Cancer of the oral cavity and pharynx (oral cancer) is a preventable illness. In the United States, about three-fourths of oral cancers are directly attributable to the use of tobacco and alcohol. Both of these risk factors have an independent effect on the formation of oral cancers, and in combination, their effect is synergistic. In the United States, people who smoke and drink heavily have a 35-fold excess risk of developing oral cancer.¹

About 30,000 new cases of oral cancer are diagnosed annually in the United States, and about 8,000 people die of the disease.¹ Although new cases and deaths are very uncommon in people under 40, they do occur. Cases may occur before the age of five, and deaths before the age of 20.² Over 40, however, age-specific incidence and mortality rates rise substantially, peaking in the oldest age groups.² Almost all oral cancers are squamous cell carcinomas.

New cases of oral cancer are found at more than double the rate in men than women. The sex differential in death rates is similar.² Given what is known of the etiology of oral cancers, these differences in incidence and mortality by sex are probably related to parallel differentials in the use of tobacco and alcohol.

The trend in oral cancer incidence in the United States was flat between 1973 (when first measured) and the early 1980s. About that time, incidence rates began to drop slightly, and this trend has continued through the 1990s. Mortality rates began to drop around 1980 and have declined steadily ever since. Five-year survival has remained rather flat over the entire period of observation (last reported for 1973-1996).²

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Between 1987 and 1998, an average of 112 Rhode Islanders were diagnosed with invasive oral cancer annually. Of these, about two-thirds were men, and one-third women. In the same twelve years of observation, an

average of 37 Rhode Islanders died of oral cancer each year. About two-thirds of the deaths occurred among men, about one-third among women. In 1998 the mean age of diagnosis for invasive oral cancer was 64 (median age 65), and the mean age of death from the disease was 70 (median age 71).

In Rhode Island, as elsewhere in the United States, oral cancer age-adjusted incidence and mortality rates are higher for men

Oral cancer statistics for Rhode Island, 1987-1998 and the U.S., 1993-1997
Sources: RI - RI Cancer Registry, RI Department of Health; US - SEER Cancer Statistics Review, 1973-1997 (2)

RI - Oral cancer cases newly diagnosed

Year	M and F	Male	Female
1987	113	81	32
1988	140	96	44
1989	86	61	25
1990	117	75	42
1991	125	73	52
1992	108	59	49
1993	99	63	36
1994	105	60	45
1995	106	69	37
1996	109	78	31
1997	126	74	52
1998	106	79	27

RI - Oral cancer deaths

Year	M and F	Male	Female
1987	40	26	14
1988	63	46	17
1989	35	27	8
1990	34	29	5
1991	32	22	10
1992	41	29	12
1993	38	24	14
1994	32	17	15
1995	34	23	11
1996	28	16	12
1997	25	15	10
1998	37	23	14

RI - Oral cancer age-adjusted (a) incidence

Years	M and F	Male	Female
87-90	9.6	15.4	5.1
91-94	9.3	12.6	6.6
95-97	9.4	14.5	5.3

RI - Oral cancer age-adjusted (a) mortality

Years	M and F	Male	Female
87-90	3.6	6.4	1.4
91-94	3.0	4.5	1.7
95-98	2.2	3.5	1.2

RI - Oral cancer age-specific incidence

Age	M and F	Male	Female
00-09	0.1	0.0	0.3
10-19	0.5	0.6	0.3
20-29	0.5	0.5	0.4
30-39	2.1	2.3	2.0
40-49	7.4	10.6	4.4
50-59	26.9	40.2	14.9
60-69	37.1	56.5	21.2
70-79	38.9	61.4	23.8
80+	37.7	63.1	27.2

RI - Oral cancer age-specific mortality

Age	M and F	Male	Female
00-09	0.0	0.0	0.0
10-19	0.0	0.0	0.0
20-29	0.0	0.0	0.0
30-39	0.5	0.6	0.3
40-49	1.5	2.5	0.5
50-59	7.9	13.4	2.9
60-69	11.8	19.4	5.7
70-79	13.0	22.7	6.5
80+	20.3	28.5	16.9

RI - percent of oral cancer cases by stage of disease at diagnosis

	M and F 1987-1990	Male 1987-1990	Female 1987-1990
Localized	37	34	42
Regional	40	43	32
Distant	13	14	10
Unstaged	11	9	16
Total	100	100	100

	M and F 1995-1998	Male 1995-1998	Female 1995-1998
Localized	37	36	40
Regional	42	45	37
Distant	9	8	9
Unstaged	12	11	14
Total	100	100	100

Oral cancer age-adjusted (a) incidence >1993-1997

	RI	US
M and F	9.1	8.5
Male	13.4	12.7
Female	5.8	4.9

Oral cancer age-adjusted (a) mortality >1993-1997

	RI	US
M and F	2.5	2.1
Male	3.6	3.3
Female	1.6	1.2

(a) Age adjusted using the "1970 US Standard Population," the convention for cancer statistics in the United States

than women. This male/female differential is observable across age groups and is generally higher for age-specific mortality rates than age-specific incidence rates.

Between 1987 and 1998, oral cancer age-adjusted incidence rates stayed about the same, except for small fluctuations from year to year. In contrast, oral cancer age-adjusted mortality rates declined substantially, from 3.6 in 1987-1990 to 2.2 in 1995-1998. The decline was steeper for males (45 percent) than females (ten percent), causing the male/female oral cancer mortality rate ratio to decline from 4.7 in 1987-1990 to 2.9 in 1995-1998.

From 1987-1990 to 1995-1998, the stage distribution of newly diagnosed invasive oral cancers improved for both sexes. The proportion of distant tumors declined slightly, and the proportion of regional tumors increased slightly. The proportion of localized tumors stayed about the same.

In recent years age-adjusted oral cancer rates (incidence and mortality) have been higher in Rhode Island than in the United States as a whole, for both sexes.

In sum, we appear to be detecting oral cancer at earlier stages of disease in Rhode Island, and have experienced a parallel drop in oral cancer mortality. The two may be linked, although the decline in mortality may also be attributable to advances in the treatment of squamous cell carcinomas. That the state has not experienced a clear decline in oral cancer incidence is troubling, because it may mean that our efforts to control tobacco and alcohol use have stalled, or that our ability to detect oral lesions before they become invasive carcinomas has not improved in the course of a decade, or both. To explore

these issues further, it may be useful to call an oral cancer summit, at which experts in surveillance, detection, and treatment might discuss approaches to the reduction of oral cancer incidence in the State.

The vigilance of primary care physicians and other primary health care providers is essential to the control of oral cancer. Many people in the state do not receive regular preventive dental care, in which examination of the mouth is a primary focus. In recognition of this problem, the Rhode Island Cancer Control Plan, updated in 1998, recommends the following to the medical care community:

"Primary care providers should remain alert to the signs of early oral cancer, particularly leukoplakia and erythroplakia, and should refer patients with these lesions to a surgical specialist for further evaluation and treatment."³

References

1. Harris A, Edwards BK, Blot WJ, Ries LAG, (eds). *Cancer Rates and Risks, 4th Edition*. National Cancer Institute. Bethesda, MD, 1996.
2. Ries LAG, Eisner MP, Kosary CL, et al. (eds). *SEER Cancer Statistics Review, 1973-1997*. National Cancer Institute. Bethesda, MD, 2000.
3. Rhode Island Department of Health. Cancer Control Rhode Island: Strategic Plan for 1998-2005. Providence, RI: Rhode Island Department of Health, 1998.

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Vital Statistics

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Rhode Island Monthly Vital Statistics Report

Provisional Occurrence Data
from the
Division of Vital Records

Underlying Cause of Death	Reporting Period			
	September 2000	12 Months Ending with September 2000		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	249	3,124	316.0	4,146.0
Malignant Neoplasms	176	2,426	245.4	6,572.5
Cerebrovascular Diseases	35	509	51.5	889.5
Injuries (Accident/Suicide/Homicide)	29	339	34.3	6,249.0
COPD	44	484	49.0	372.5

Vital Events	Reporting Period		
	March 2001	12 Months Ending with March 2001	
	Number	Number	Rates
Live Births	975	13,002	13.2*
Deaths	900	10,030	10.1*
Infant Deaths	(15)	(107)	8.2#
Neonatal deaths	(13)	(90)	6.9#
Marriages	549	8,349	8.4*
Divorces	360	3,314	3.4*
Induced Terminations	537	5,507	423.6#
Spontaneous Fetal Deaths	100	1,038	79.8#
Under 20 weeks gestation	(95)	(971)	74.7#
20+ weeks gestation	(5)	(67)	5.2#

(a) Cause of death statistics were derived from the underlying cause of death reported by physicians on death certificates.

(b) Rates per 100,000 estimated population of 988,480

(c) Years of Potential Life Lost (YPLL)

Note: Totals represent vital events which occurred in Rhode Island for the reporting periods listed above. Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.

* Rates per 1,000 estimated population

Rates per 1,000 live births